Remarks

The Applicants have amended Claims 2 – 9 and 11 to place them into proper form for allowance. Claims 10 and 12 have also been amended to more clearly recite the method steps for ease of understanding. Entry of the above amendments into the Official File is respectfully requested.

The Applicants acknowledge the rejection of Claims 1, 3 – 6 and 8 – 12 under 35 U.S.C. §102 as being anticipated by Schlueter. The Applicants note with appreciation the Examiner's helpful and detailed comments concerning the alleged applicability of Schlueter to the above recited claims. However, the Applicants respectfully submit that, despite a superficial appearance of applicability, Schlueter is quite far afield from the subject matter recited in Claims 1, 3 – 6 and 8 – 12.

In Schlueter, the polyimide film per se contains conductive doped metal oxide filler. That is, the conductive doped metal oxide filler is contained by being dispersed within the polyimide film. In sharp contrast, in Applicants' Claim 1, a metal oxide and conductive ultrafine particle mixed layer is formed on the surface of a base polyimide film to form an antistatic film. Thus, the conductive ultrafine particles are firmly held in the film by the metal oxide, without any adhesive material so that the antistatic film can keep high level surface resistivity even after a release effect is conferred. The excellent retention effect of the antistatic property of the film surface by the metal oxide can be confirmed by the comparison of the results in Examples 1-3 and Comparative Example 1 of this application.

The Applicants' Claim 1 recites an antistatic film having a surface resistivity of no greater than $10^{13}\ \Omega/\square$. The antistatic film comprises a metal oxide and conductive ultrafine particle mixed layer formed on the surface of a film such as a polyimide, for example. The Applicants respectfully submit that such a structure is sharply different from the multiple structures disclosed by Schlueter. The easiest way to understand these differences is to look to Figs. 3 – 5 of Schlueter, wherein the embodiments discussed in the Specification are pictorially represented. Referring first to Fig. 3, which is described generally in Column 7, there is a single layer that is a polyimide film having a filler mixed into the polyimide film. The filler is a conductive filler such as doped metal oxide fillers including antimony doped tin oxide, antimony doped titanium dioxide, aluminum doped zinc oxide, similar doped metal oxides and mixtures thereof.

The Applicants respectfully submit that the structure of Fig. 3 has no applicability to the structure recited in Claim 1 inasmuch as Claim 1 specifically recites at least a two-layer structure.

Fig. 4, which is described generally in Column 9 of Schlueter, discloses a two-layer structure. The structure in Fig. 4 contains as one of its component layers the layer of Fig. 3. It also has an outer layer 32 which comprises a low surface energy and high temperature resistant material such as silicone rubber, fluoropolymers, urethanes, acrylic, titamers, ceramers and hydrofluoroelastomers.

Again, the Applicants respectfully submit that this structure is quite different from the structure recited in Claim 1. The Applicants specifically claim a layer which is a mixture of metal oxide and conductive ultrafine particles applied to the surface of a film. Fig. 4 and the accompanying text in Column 9 of Schlueter fail to disclose this. Schlueter discloses a polyimide film containing conductive filler applied to another film. There is no layer of a mixture of metal oxide and conductive ultrafine particles. In that regard, it should be noted that the doped fillers disclosed in Schlueter are not a mixture of metal oxides and conductive ultrafine particles. Doped metal oxides are not mixtures of one element and a metal oxide. They are one structure and in no way could be interpreted as a mixture. Accordingly, the Applicants respectfully submit that Fig. 4 is inapplicable to Claim 1.

Fig. 5 discloses the structure of Fig. 4 with an additional layer which is an outer layer release layer. Addition of the outer release layer does nothing to cure the deficiencies of the structure as set forth in Figs. 3 and 4. Accordingly, the structure of Fig. 5 is applicable.

Careful scrutiny of the remainder of the Schlueter specification reveals that there is no structure wherein a mixture of metal oxide and conductive ultrafine particles are formed on the surface of the film wherein the resulting antistatic film has a surface resistivity of greater than 10^{13} $\Omega/\square$. The Applicants therefore respectfully request withdrawal of the rejection of Claim 1.

Claims 2 – 9 depend either directly or indirectly from Claim 1 and are allowable as well.

Claim 10 is a process claim. However, it also depends from Claim 1 and is therefore allowable. Claim 11 depends from Claim 10 and is still further allowable.

Claim 12 is an independent process claim. The steps of the process result in the formation of an antistatic film having a surface resistance value of no greater than 10^{13} $\Omega/\square$, which has a layer of a mixture of a metal oxide and conductive ultrafine particles on the surface of a film. Therefore, the Applicants respectfully submit that Schlueter is in applicable to Claim 12 as well. The Applicants

therefore respectfully request withdrawal of the rejection as it applies to Claims 3 – 6 and 8 – 12.

The Applicants acknowledge the rejection of Claims 2 and 7 under 35 U.S.C. §103 as being obvious over Schlueter. The Applicants again note with appreciation the Examiner's helpful and detailed comments concerning the alleged applicability of Schlueter. The Applicants further note with appreciation the Examiner's frank acknowledgment that Schlueter does not teach that the metal oxide and indium tin oxide particle are present in a weight ratio of 0.01 to 0.1 or that the indium tin oxide particle has a particle size of no greater than 0.1 μm.

However, the Applicants respectfully submit that, in view of the above-described deficiencies set forth above with respect to Claim 1, making the optimization of size and amounts of metal oxide and indium tin oxide particles as set forth in the Official Action would still not cure the earlier described deficiencies of Schlueter. The Applicants therefore respectfully submit that Claims 2 and 7 are patentable over Schlueter under §103. Withdrawal of the rejection is respectfully requested.

The Applicants have added new Claims 13-21. New Claim 13 is similar to Claim 1 except that it recites that "the conductive ultrafine particles are firmly held in the film by the metal oxide, thereby allowing the surface resistance value to be kept within less than 10-fold compared to the initial value, even if a release effect is conferred by an adhesive tape at a pull rate of 60 m/min." Support for that subject matter may be found in the Applicants' Specification at page 8, lines 23-27 and page 9, lines 12-15 and 19-23. New Claims 14-21 are substantially the same as Claims 2-9, respectively, except that they depend on new Claim 13. Entry into the official file and allowance of those Claims is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,

T. Daniel Christenbury
Reg. No. 31,750
Attorney for Applicants

TDC:rb
(215) 656-3381